

MISCELLANEOUS NOTES

TABLE 2
MEASUREMENTS (IN MM): MALE SYNTYPE *S. BUXTONI* GRAVELY

	Pedipalp	Legs I	II	III	IV
Coxa	0.54	0.72	0.54	0.36	0.33
Trochanter	0.49	0.42	0.23	0.27	0.43
Femur	0.60	1.62	0.94	0.88	1.40
Patella	0.61	2.20	0.56	0.36	0.54
Tibia	0.54	1.55	0.65	0.4	1.10
Tarsus			0.56	0.52	1.00
Basitarsus	0.27	1.90			
			0.43	0.36	0.45
Total	3.05	8.41	3.91	3.15	5.25

Distribution: North Central and Central Provinces of Sri Lanka only.

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31. MORPHOLOGY OF *EURYCERCUS LAMELLATUS* (MULLER), CHYDORIDAE: CLADOCERA, FROM THE HIGH ALTITUDE WETLANDS OF SIKKIM, INDIA

(With thirteen text-figures)

Chydoridae is the largest family of the Order Cladocera, and is clearly defined morphologically and ecologically. Frey (1967)

examined the phylogenetic relationships amongst its members and established four subfamilies, namely Eurycercinae, Sayciinae,

Chydorinae and Aloninae, of which Sayciinae is not represented in the Indian subcontinent. The remaining three subfamilies, with more than 50 species, are represented in India. The subfamily Eurycercinae is represented by *Eurycercus lamellatus* reported from Manasbal lake, Kashmir (Michael and Sharma 1988).

Further, by examining the major characters of the genus *Eurycercus* from various parts of the world, Frey (1975) established three subgenera, namely *Eurycercus*, *Teretifrons* and *Bullatifrons* for the *lamellatus*, *glacialis* and *macracanthus* groups.

The present study reports the occurrence of *Eurycercus lamellatus* (Muller 1776) from three high altitude wetlands of west and east Sikkim. A brief description of its external morphology and thoracic limbs is given below.

Eurycercus lamellatus (Muller 1776)

Material Examined: 13 adult females and seven neonates from Changu lake (east Sikkim, 23.v.1995), Sum Dung lake (East Sikkim, 29.xi.1995) and Tik Juk lake (west Sikkim, 19.xi.1995) coll. Bhupendra Nath Roy, Tadong, East Sikkim.

Female: Body Size: 2.21 ± 0.26 mm (n=9). Body width: 1.675 ± 0.24 mm (n=9). Shape oval. Dorsal margin of carapace convex, ventral margin straight. Posterodorsal and posteroventral corners of carapace rounded (Fig. 1). Dorsal keel present, head keel absent. Labrum convex, triangular, with a blunt curve at the distal end (Fig. 2). Antennules with sharp incision; sensory seta situated in the middle of anterior margin (Fig. 3). Antennal seta 0-0-3/1-1-3. Eye larger than ocellus, ocellus small, situated at the base of the antennule. Midgut with single loop; caecum short. Carapace with row of setae on ventral margin and a row of small spinules at the end of ventral margin and posterior margin (Fig. 4).

Thoracic limb I: Bears 3 setae in the inner distal lobe (clasping hook) and 2 setae in the

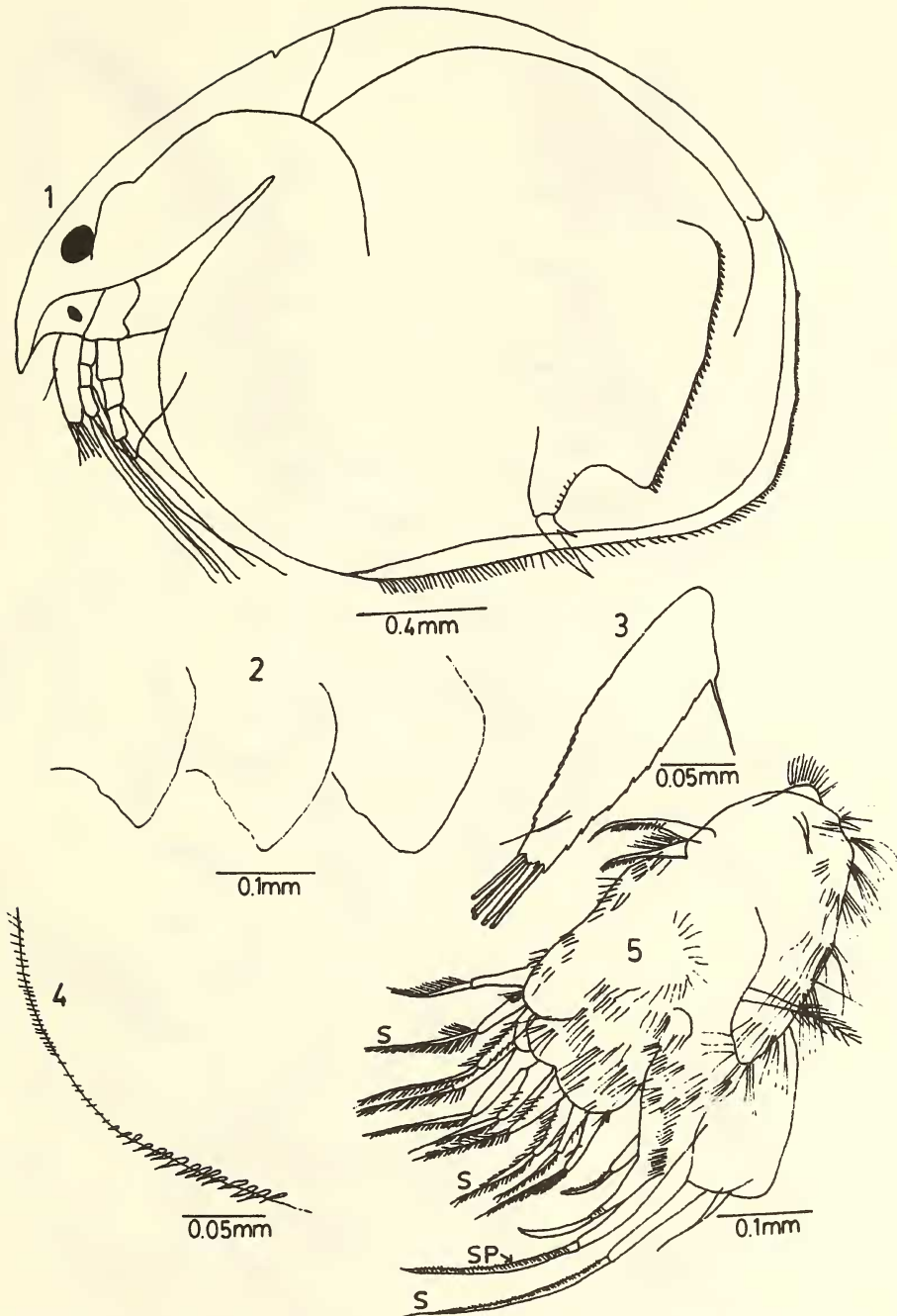
outer distal lobe. The middle seta of the inner distal lobe is immovable, with a heavily chitinized hook. The inner distal lobe also bears proximal, marginal and distal spinules, and a group of grinding tubercles (Fig. 5).

Thoracic limb II: Size of scraping spine 2 and 3, 1 and 4, almost the same. Number of scraping setules 9-12 (Fig. 6).

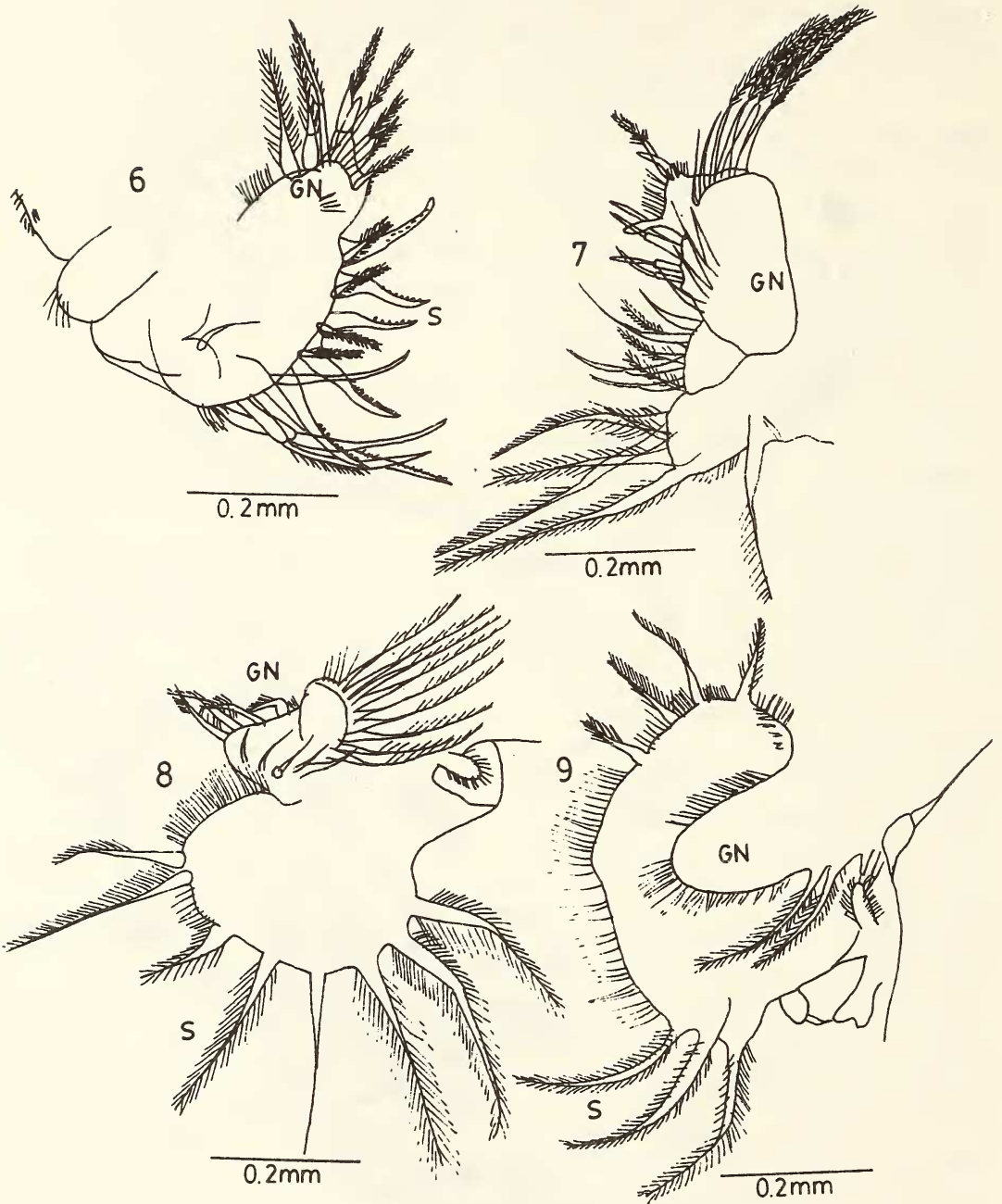
Thoracic limb III, IV, V & VI (Figs 7-10): Thoracic limb III with 6 setae in the gnathobase, with 7 setae on the outer surface of the endite (Fig. 7). The middle one of the 3 feathered setae on the gnathobase near the sensilla is slightly shorter than the other 2 in the thoracic limb V. Limb IV with 8 soft and 9 gnathobasic setae, and limb V with 7 soft setae. Limb VI as in Fig. 10.

Postabdomen (Fig. 11): Concave abruptly beyond the distalmost tooth. Distal preanal spine much larger than others, gradual decrease in size towards proximal end. Claws with 2 basal spines, distal spine longer. Concave margin with setae. Head shield (Figs 12-13) length and width not equal. Median pore larger, oval, with a small lateral pore on either side (Fig. 13).

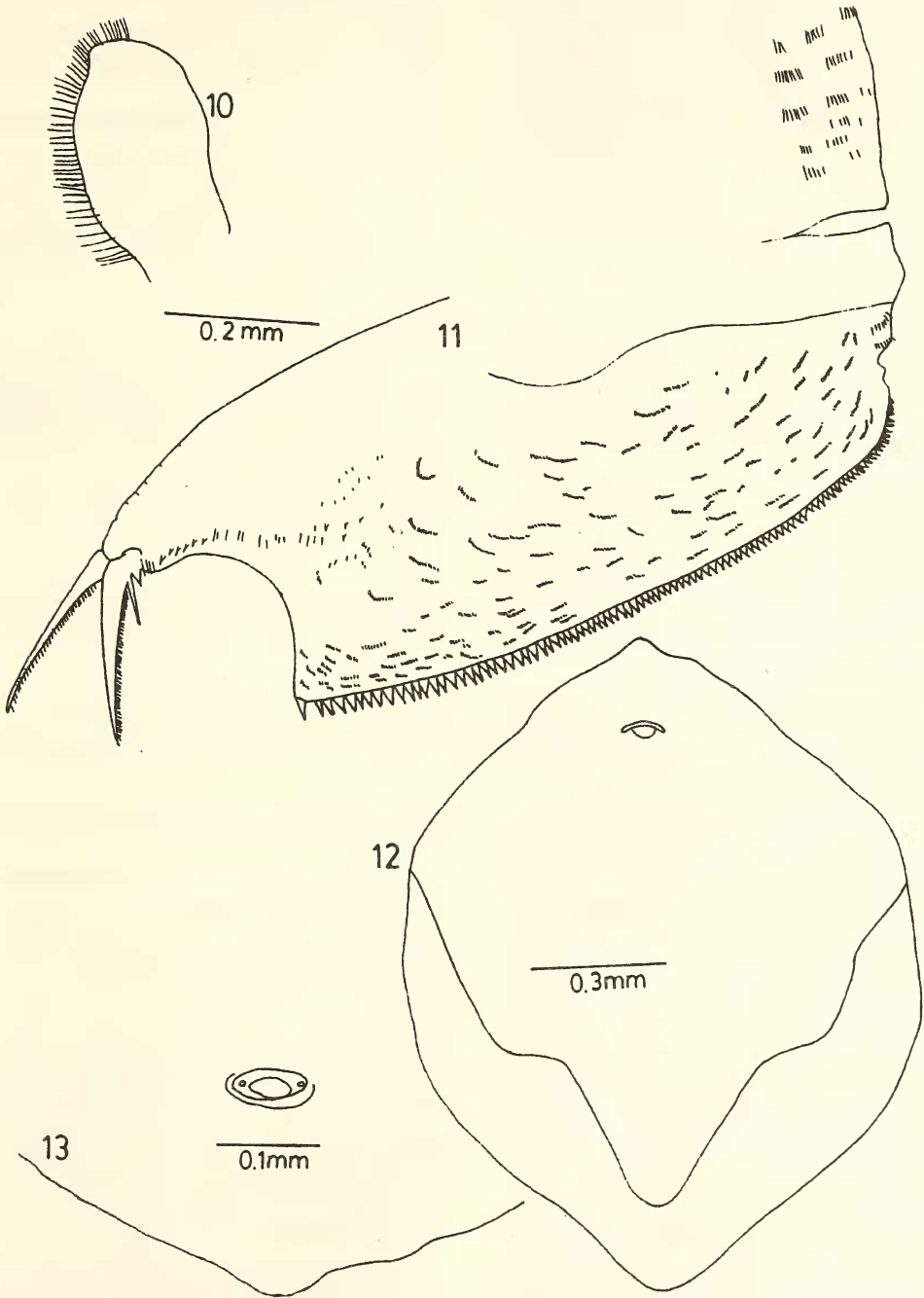
Remarks: In India, *E. lamellatus* was recorded from Manasbal lake, Kashmir (only 2 specimens from littoral zone, badly preserved and distorted) by Michael and Sharma (1988). A head shield of *Eurycercus* has been reported from Jabalpur, Madhya Pradesh (central India), supposedly carried there by a river originating in the Himalaya (Adholia 1979, Fernando and Kanduru 1984). Sharma and Michael (1987) indicated that *E. lamellatus* is restricted to Kashmir (above 32° N); they also collected a specimen of *Eurycercus* from lower altitudes in the Jaintia hills, northeast India, from an abandoned paddy field. Dumont and Van de Velde (1977) collected a number of specimens of *Eurycercus* sp. in Tsho III loc. 1, which were sent to the late Dr. D.G. Frey for further study, who said that they represented an undescribed species.



Figs 1-5: *Eurycercus lamellatus*, Female, 1. lateral view; 2. labrum; 3. antennule; 4. posteroventral corner; 5. thoracic limb (S-setule; SP-spinule).



Figs 6-9: *Eurycercus lamellatus*, Female, 6. II thoracic limb; 7. III thoracic limb; 8. IV thoracic limb; 9. V thoracic limb (S - setule; GN - gnathobase).



Figs 10-13: *Eurycercus lamellatus*, Female, 10. VI thoracic limb; 11. postabdomen; 12. head shield; 13. head pore.

The present study on material collected from the eastern Himalayan region clearly shows no difference in trunk limb morphology of females. Unfortunately, no males were found. Since male morphology is considered decisive for the taxonomy of most Cladocera (Venkataraman 1995), efforts should be made to study the males of the present species from remote areas in the Himalaya.

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32. NEW RECORD OF THE MUD SNAIL, *HYDROBIA* (MOLLUSCA : GASTROPODA) FROM THE MANGROVE HABITAT OF INDOPACIFIC REGION

During an intensive survey of the macrobenthos of Cochin mangroves in Kerala by Sunil Kumar (1993), *Hydrobia* sp. was collected from the intertidal soil habitat. In the entire two-year period of study, large numbers of mud snails (Hydrobiidae) were found in the mangrove subsoil. Survey of the literature revealed that this occurrence of the mud snail, *Hydrobia*, is the first record from the Indian mangrove environment and from the mangrove systems of the Indo-Pacific region, including South Africa, Malaysia, Thailand, Australia, Japan and Hawaii.

The ecology and distribution of mud snails (Hydrobiidae) was worked on by Nicol (1936), Spooner and Moore (1940), Newell (1962, 1965), Fenchel (1975a, b), Wells (1978), Barnes (1979), and Walters and Wharfe (1980). However, the

species has not been reported from the mangrove ecosystem.

In India, Pillai and Appukuttan (1980), while studying the molluscs in and around the coral reefs of the southeastern coast of India, compared the mangrove-associated molluscs of that area in Manauli Island with those of the mangrove forms of the East Indies (Cooman, 1969) and Western Indian Ocean (Taylor 1968). They stated that Indian mangroves have faunal elements from both eastern and western parts of the Indian Ocean. However, in their work there was no report on the distribution of the infaunal mollusc, *Hydrobia*.

A comparison of the mangrove molluscan fauna of south India with that of Malaysia (Berry 1963) and South Africa (Macnae 1963, Brown 1971) has been done by Kasinathan and